

## WHAT IS CLAIMED IS:

1. A communication optical system comprising:

a light source;

5 a light-receiving element; and

a beam-splitting member, which performs one of transmission and reflection towards an incident/emergent port, of a first light beam from the light source, and performs one of reflection and  
10 transmission towards the light-receiving element, of a second light beam from the incident/emergent port;

wherein the light source and the light-receiving element are arranged on the same side with respect to the beam-splitting member.

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2. The communication optical system according to claim 1,

further comprising a first and a second prism, which are cemented to each other;

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wherein the beam-splitting member is arranged at a cemented portion of the first prism and the second prism, and the light source and the light-receiving element are arranged on the same side with respect to the first and second prism.

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3. The communication optical system according to claim 1,

further comprising a first light-receiving element for detecting an incident position of the second light beam and a second light-receiving element for communication with the second light beam,

5        wherein the light source and the second light-receiving element are arranged on the same side with respect to the beam-splitting member.

4.     The communication optical system according to  
10    claim 2,

      wherein the second prism comprises a first surface cemented to the first prism, and a second surface which is parallel to the first surface.

15    5.     The communication optical system according to claim 4,

      wherein the second prism comprises a third surface disposed on the opposite side of the first surface with respect to the light source, and the  
20    third surface is arranged non-perpendicularly to an optical axis of the first light beam extending from the light source to the beam-splitting member.

6.     The communication optical system according to  
25    claim 4,

      wherein the second prism comprises a third surface disposed on the opposite side of the first

surface with respect to the light source, and the third surface is arranged non-parallel to an incident surface of the first prism on which the first light beam is incident.

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7. The communication optical system according to claim 4,

wherein the second prism comprises a third surface disposed on the opposite side of the first surface with respect to the light source, and the third surface is arranged such that the third surface forms an angle of substantially  $90^\circ$  with respect to both the first surface and the second surface of the second prism.

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8. A free-space optics communication apparatus comprising:

the communication optical system according to claim 1;

20 a driving circuit modulating the light source in accordance with communication information; and

an output circuit outputting a signal from the light-receiving element.